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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,284	04/21/2006	Bela Jancsik	OPUL-1001US	4108

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EXAMINER	
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ART UNIT	PAPER NUMBER
2856	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,284	JANCSIK ET AL.	
	Examiner	Art Unit	
	Nashmiya S. Fayyaz	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1, 5-12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al-US Patent # 6,182,499 in view of Potyrailo-US Pub # US Patent # 2002/0172620. As to claim 1, McFarland et al disclose a system and method for characterization of materials with mechanical oscillators including plural sample chambers (arrayed wells 801/cells 901), controller (thermistor 807/909) for controlling the temperature of the wells/cells, a plurality of acoustic detectors (network analyzer 505 with quartz resonator probes 501/805/903), driving device and data device (data acquisition and controller board 907 with computer 915 and processor 913), see figs. 8 and 9 and col. 12, lines 64 et seq. Also, it is noted that Fig. 9 depicts a multiplexed control circuit. However, McFarland et al lack a teaching for a multiplexer connected between said driving device and acoustic detectors. In a closely related prior art device, Potyrailo discloses a system and method for rapid evaluation of chemical resistance of materials in which there is included an array of acoustic devices 31/32 where it is also indicated that a single oscillation source may be utilized in combination with a multiplexer to sequentially initiate oscillation for each of a plurality of acoustic wave devices in the array, see par [47]. Therefore, it would

have been obvious to one of ordinary skill in the art at the time of the invention to have included the usage of a multiplexer with a single oscillation source to resonate the array of resonators in the McFarland et al device in order to reduce the number of oscillation sources required. As to claim 5, note multiplexers (mux) in multiplexer control circuit along with data acquisition and controller board 907 with computer 915 and processor 913 with data processing and storage in fig. 9. As to claim 6, the driving device is an oscillator, note fig. 5 description with frequency sweep system. As to claim 7, note the multiplexed control circuit of fig. 9 includes a computer 915 with processor 913 which is programmable and further the multiplexer suggested by Potyrailo could also be easily programmable since such an expediency is old and well-known for automatic control. As to claim 8, note that the computer 915 which processor 913 could be designated the data validator as they are capable of such. As to claim 9, McFarland et al employ a frequency sweep system for function generator in the network analyzer and do not specify a Fourier transform generator. However, usage of a Fourier transform generator is known for generating complex and continuous waveforms as required by McFarland et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included a Fourier transform function generator in the McFarland et al device since such an expediency is known for generating complex and continuous waveforms. As to claims 10 and 20, McFarland et al disclose a method for

characterization of materials with mechanical oscillators including providing plural sample chambers (arrayed wells 801/cells 901), providing a plurality of acoustic detectors (quartz resonators 805/903), driving the detectors with data acquisition and controller board 907 with computer 915 and processor 913 at a resonant frequency and measuring a output of the resonators, see figs. 8 and 9 and col. 12, lines 64 et seq. Further, McFarland et al lack a teaching for provision of oscillation using a multiplexed output from an oscillator circuit. However, as indicated above with regard to claim 1, Potyrailo discloses a system and method for rapid evaluation of chemical resistance of materials in which there is included an array of acoustic devices 31/32 where it is also indicated that a single oscillation source may be utilized in combination with a multiplexer to sequentially initiate oscillation for each of a plurality of acoustic wave devices in the array, see par [47]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included the usage of a multiplexer with a single oscillation source to resonate the array of resonators in the McFarland et al device in order to reduce the number of oscillation sources required. As to claim 11, McFarland et al lack a teaching for provision of 96 wells. However, McFarland et al indicate that "a large array of cells" can be included in the circuit of fig. 9. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have included any number of reasonable wells such as 96 wells since McFarland et al teach inclusion of a

large number of wells and since sample trays of 96 wells are old and well-known. As to claim 12, note in fig. 9 that board 907 is coupled to computer 915 and processor 913 for programming exchange and control.

3. Claims 2-4, 13-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al in view of Potyrailo as applied to claims 1, 5-12 and 20 above, and further in view of Long et al-US Patent # 5,041,800. As to claim 2, McFarland disclose that the thermistor controls the temperature. However, McFarland lack a teaching for the thermistor 807 to be in contact with a surface of the detector. In a related prior art device, Long et al disclose a low power oscillator with a heated resonator including resonator 114 with an enclosure 104 and a further temperature sensor (thermistor 112) on a surface of enclosure 104 so as to control the temperature of the enclosure, see fig. 1A. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a thermistor on the surface of the enclosure in McFarland et al's device in order to be able to maintain the temperature of the resonator at or near its desired temperature, see Abstract of Long et al. As to claims 3 and 21, note that Long et al include a crystal resonator enclosure 104 along with the heating element 102 obviously to maintain the temperature control more efficiently. As to claim 4, note the global thermostat control signal coming from the controller board 907 which is in communication with programmable computer 915 in fig. 9. As to claim 13, note thermistors 909 are recited as

controlled via board 907 and GT control signal. However, McFarland lack a teaching for the thermistor to be in contact with a surface of the detector. In a related prior art device, Long et al disclose a low power oscillator with a heated resonator including resonator 114 and a further thermistor 112 so as to control the temperature of the resonator, see fig. 1A. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have used a thermistor on the surface of the detector enclosure in McFarland et al's device in order to be able to maintain the temperature of the resonator at or near its desired temperature, see Abstract of Long et al. As to claim 14, note the "predefined temperature" indicated in col. 13, lines 19-30 indicating a temperature control. As to claim 15, note lines 45-50 of col. 13. As to claims 16 and 17, note the resonant frequency response over time is measured, note abstract. As to claim 18, note the properties measured as in the Abstract. As to claim 19, note col. 13, lines 31-50.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 2 and 10, on line 4, and in claims 2 and 13, "said acoustic detector" lacks clear antecedent basis. In claim 3, "the sample chamber" on lines 2-3 lacks clear antecedent basis. In claim 10, on lines 6-7, "said piezoelectric crystal" lacks clear antecedent basis. In claim 15, on line 15, "said measuring steps" lacks antecedent basis. In claim 17, on line 2, "the acoustic detector" lacks clear antecedent basis.

Response to Arguments

6. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nashmiya S. Fayyaz whose telephone number is 571-272-2192. The examiner can normally be reached on Mondays and Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. S. F./
Examiner, Art Unit 2856
/Hezron Williams/
Supervisory Patent Examiner, Art Unit 2856